What is claimed is:

1. A cutting tool compring, as an edge part, a cubic boron nitride sintered compact containing cubic boron nitride having an average grain diameter of at most 1 μm, in which the cubic boron nitride sintered compact has, at the said edge part, an $I_{(220)}/I_{(111)}$ of (220) diffraction intensity ($I_{(220)}$) to (111) diffraction intensity ($I_{(111)}$) ratio of at least 0.05 in X-ray diffraction of arbitrary direction and impurities are substantially not contained in the grain boundaries.

2. The cutting tool as claimed in Claim 1, wherein the thermal conductivity of the cubic boron nitride sintered compact, at the said edge part, is 250 to 1000 W/m · K.

3. The cutting tool as claimed in ~~Claim 1 or Claim 2~~ 1, wherein the transverse rupture strength of the said cubic boron nitride sintered compact is at least 80 kgf/mm² by a three point bending measurement at a temperature between 20 ℃ and 1000 ℃.

4. The cutting tool as claimed in any one of ~~Claims 1 to 3~~ 1, wherein the hardness of the cubic boron nitride sintered compact, at the said edge part, is at least 4000 kgf/mm² at room temperature.

5. The milling cutter as claimed in any one of ~~Claims 1 to 4~~ 1, wherein the thermal conductivity of the cubic boron nitride sintered compact, at the said edge part, is 300 to 1000 W/m · K.

6. The milling cutter as claimed in any one of ~~Claims 1 to 5~~ 1, wherein the thermal expansion coefficient of the cubic boron nitride sintered compact, at the said edge part, is 3.0 to 4.0 x 10^{-6}/K at a temperature ranging from 20 ℃ to 600 ℃.

7. The milling cutter as claimed in any one of ~~Claims 1 to 6~~ 1, which is applied to a face milling cutter or end mill for high speed cutting cast irons or steels.

8. The precision cutting tool as claimed in any one of ~~Claims 1 to 4~~ 1, wherein the cubic boron nitride sintered compact, at the said edge part, con-

tains cBN with an average grain diameter of at most 0.5 μm.

9. A process for the production of a sintered compact for a cutting tool containing cubic boron nitride with an average grain diameter of at most 1 μm, which comprises reducing and nitriding a compound containing boron and oxygen in the presence of carbon and nitrogen to synthesize a low pressure phase boron nitride and subjecting the resulting low pressure phase boron nitride, as a starting material, to direct conversion into cubic boron nitride at a high temperature and high pressure, while simultaneously sintering.

10. The process for the production of a sintered compact for a cutting tool, as claimed in Claim 9, wherein the said direct conversion and sintering are carried out at a pressure of at least 6 GPa and a temperature of 1550 to 2100 ℃.